REMARKS/ARGUMENTS

Claims 1, 3 to 5, 7 to 9, 11 to 13, 15, 17 to 22, 38, 39, 41 and 55 to 67 remain in this application. Claims 2, 6, 10, 14, 16, 23 to 37, 40 and 42 to 54 were cancelled, without prejudice, in the continuation transmittal letter. Claims 55 to 67 are newly added.

Claim 1 has been amended to improve definiteness. The regions that include the gloss controlling agents are portions of the thermoset top coat and not a surface.

Claims 3 to 5, 7 to 9, 11 to 13, 15, 17 to 22 and 38 were amended to improve definiteness and remove any implication of process limitations. "Radiation curable composition" has been changed to "thermoset top coat." "UV-curable composition" has been changed to "thermoset top coat."

Claim 4 has been rewritten in independent form with all of the limitations of claim 1 from which it originally depended.

The claim dependency of claims 11 to 13 and 17 to 22 has been changed. Claims 11, 17 and 19 to 22 now depend on new claim 62, which is the same scope as claim 9, but without process limitations and without the requirement that the top coat be a thermoset top coat. Claim 12 now depends on claim 11. Claim 18 now depends on claim 17.

Process limitations in claims 11 and 17 to 22 were either removed or converted to structural limitations. Exposure to UV irradiation and/or heat requires a photoinitiator, thermal initiator or combinations of the two initiators. Exposure to EB irradiation does not require a photoinitiator.

Claim 38 has been amended to be more definite by claiming a freestanding coated film consisting of a freestanding film, a patterned layer overlying the film and a

thermoset top coat overlying the patterned layer. Support to the amendment is found at page 11, lines 7 to 11, and page 12, lines 6 to 11, for example.

New claims 55 to 59 were previously presented in the parent application. New claims 60 to 64 were added to more definitely define the invention.

Claim 60 clearly indicates that the thermoset top coat includes a photoinitiator in both the first and second regions. Claim 61 is similar in scope to claim 60, by further requires a pattern layer comprising the gloss controlling agent be interposed between the substrate and the thermoset top coat. This is contrary to the teachings of Schmidle that requires one the regions to be free of photoinitiator.

Claim 62 is the same as claim 9 except the process limitations and requirement that the top coat be a thermoset top coat were eliminated. Claim 62 requires a flatting agent. Claim 63 depends on claim 62 and requires the top coat to be a thermoset top coat. Therefore, the scope of claim 63 is the same as claim 9 except the process limitation has been eliminated. There is no teaching or suggestion of a flatting agent in Schmidle.

Claim 64 clarifies that the concentration of the flatting agent in the first region varies adjacent the exposed surface and distal the exposed surface. Support for claim 64 is found in the specification at page 4, line 27, to page 5, line 12. None of the cited references teach or suggest a flattening agent having different concentrations adjacent and distal an exposed surface.

Claim 65 requires a clear layer to be interposed between the substrate and the thermoset top coat. Claim 66 depends on claim 65 and requires a printed pattern to be interposed between the substrate and the clear layer. Claim 67 depends on claim 65 and requires a printed pattern to be interposed between the top coat and the clear layer.

Support for claims 65 to 67 is found at page 3, line 22 , to page 4, line 9; and page 11, line 14, and page 12, line 5, for example. Schmidle does not teach or suggest a clear layer between the substrate and the top coat.

Section 103 Rejections

Claims 1 to 22, 38 to 45 and 55 to 60 were rejected in the parent application under 35 U.S.C. 103(a) as being unpatentable over Schmidle et al. U.S. Patent No. 4,491,616 (Schmidle) in view of Sherman et al. U.S. Patent No. 5,985,416 (Sherman), or Schmidle in view of Sherman further in view of Sigel et al. U.S. Patent No. 6,333,076 (Sigel). These rejections have been appealed in the parent application. Applicants have made numerous amendments to the claims, mainly to improve definiteness, remove process limitations and correct clerical errors. Process limitations have been converted into structural limitations in most instances.

Independent claims 1, 9 and 38, and rewritten independent claim 4 require a thermoset top coat. The Examiner acknowledges that Schmidle does not teach a thermoset top coat. He looks to Sherman for a teaching of a thermoset top coat and combines the teachings of Sherman and Schmidle. As correctly noted by the Examiner, Schmidle and Sherman are analogous and Sherman teaches that thermoset top coats can resist discoloration and degradation. However, substituting the wear layer of Sherman for the wear layer of Schmidle destroys the invention of Schmidle. Therefore, the combination of Schmidle and Sherman is improper.

Schmidle teaches a method of making a surface covering having multiple gloss levels by applying a wear layer comprising a blend of a thermoplastic, such as polyvinyl chloride, and an acrylic monomer capable of being polymerized and cross-linked (column

10, lines 6 to 22; also note all of the examples include PVC, see the table at column 11). The blend must be thermoplastic to be able to be "subject[ed] to a sufficient amount of thermal energy to permit the remaining uncured resinous composition to flow from a dull appearance into a glossy appearance" (Claim 1, paragraph (f)). Photoinitiator, which is printed onto selected areas of the base, migrates into portions of the wear layer blend. When exposed to radiation, the photoinitiator containing portion becomes thermoset, i.e. cross-linked, and retains its dull finish upon heating. The other portions must be thermoplastic to flow and become glossy upon subsequent heating. See column 14, line 59, to column 15, line 14, and claim 1.

The entire structure of Schmidle is subjected to actinic radiation and those regions of the wear layer into which the photoinitiator migrated retains a dull, matte finish when the surface covering is heated in a fusion oven at elevated temperatures to blow the foamable layer and fuse the wear layer. The regions of the wear layer without photoinitiator become relatively sleek, glossy or lustrous. See the Abstract; column 2, lines 1 to 29; column 3, lines 54 to 62; column 10, lines 6 to 22; and column 15, lines 3 to 14, for example.

Particularly note column 11, line 66, to column 12, line 4, and the wear layer formulation at column 16, lines 31 to 39, of Schmidle. The Schmidle wear layer composition does not contain photoinitiator. The only regions of the Schmidle wear layer that polymerizes (cross-links) are the predetermined portions that overlie the printing ink composition that contains photoinitiator.

The thermoset top coat of Sherman completely polymerizes. Otherwise the desired resistance to discoloration and degradation, an important objective of the

invention, would not occur. See column 2, lines 47 to 52, and column 3, lines 48 to 54. If the Sherman top coat composition were substituted for the Schmidle top coat composition, as suggested by the Examiner, the entire Schmidle top coat would polymerize (cure) when subjected to the heat in the oven. See column 3, lines 64 to 67. Therefore, it would not flow from a dull appearance into a gloss, as taught by Schmidle. This is contrary to the invention of Schmidle, which is to yield some areas of dull, matte finish and some areas of sleek, glossy or lustrous finish some areas.

Therefore, the combination of Schmidle and Sherman is improper and the claims requiring a thermoset top coat must be allowed. Specifically, since independent claims 1, 4, 9 and 38 require a thermoset top coat, these claims and all of the claims independent on them are allowable over Schmidle in view of Sherman.

Claim 9 has been "rejected because [it is a] product-by process claim[]." See the middle of page 3 of the Office Action. While the Examiner may be correct that "process limitations are given no weight in product claims" (last sentence of the carryover paragraph on pages 3 and 4), the other limitations of the claim must be considered. Claim 9 requires a thermoset top coat. Therefore, for the reasons discussed above, claim 9 is allowable over Schmidle in view of Sherman.

Further claim 9 requires the thermoset top coat to include a flatting agent. The Examiner looks to column 5, lines 1 to 8, of Schmidle for a suggestion of a top coat comprising a flatting agent. However, the cited section of Schmidle describes the backing layer and not the top coat. Therefore, there is no teaching or suggestion in Schmidle of a top coat comprising a flatting agent.

Further, clay and limestone fillers disclosed by Schmidle, as well as pigments, are not flatting agents. Those of ordinary skill in the art, as reflected by patents assigned to numerous companies in the floor covering industry and the floor coating composition industry, do not equate flatting agents with fillers and pigments. See Shalov et al. U.S. Patent No. 5,830,937, assigned to Congoleum Corporation, column 16, lines 8 to 39 (The present compositions may also contain other constituents as are known and available, including ... fillers such as clay and limestone .... A flattening agent such as fine silica may be used for conventional purposes to change the gloss and shine of the coating"; Shultz et al. U.S. Patent No. 5,670,237, assigned to Mannington Mills, column 9, lines 26 to 29 (The final coating may contain a flatting agent to control the gloss. Such coating ... normally will have little pigment or filler therein"; Tsuei U.S. Patent No. 5,643,669 assigned to 3M, column 7, lines 15 to 18 (The low VOC curable coating compositions of the present invention can include other optional additives such as colorants, flattening agents, ... fillers and the like"; Zimmer et al. U.S. Patent No. 4,358,476, assigned to Lord Corporation, column 13, lines 39 to 45 (The compositions of the invention can also contain ... pigments, fillers, flattening agents ... and other additives typically present in coating compositions. Such additive materials are well known ... and require no further elaboration"; and Allan U.S. Patent No. 3,800,013, assigned to GAF Corporation, column 11, lines 59 to 62 (This final coating may contain a flatting agent to control gloss. Such coating ... normally will have little pigment or filler therein." Therefore, claim 9, as well as claims 4 and 63, is allowable for this reason.

If the Examiner disagrees that those of ordinary skill in this field know that flatting agents are not pigments or fillers, he is respectfully requested to support his

position with either an affidavit or additional prior art, as required by 37 CFR 1.104(d)(2). Otherwise, claims 4, 9 and 62, which include flatting agents in the top coat, and the claims dependent thereon, should be allowed.

Claims 13 and 56 require a cure altering agent be included in the top coat. In the first sentence of the carryover paragraph on pages 2 and 3 of the Office Action dated June 19, 2003 in the parent application, the Examiner takes the position that "Schmidle discloses ... a wear layer ... comprising a radiation curable composition with regions of low and high gloss levels wherein the regions comprise a photoinitiator" followed by the parenthetical phrase "photoinitiator and cure altering agent" referring to column 4, lines 64 to 68 of Schmidle. If the parenthetical phrase is suppose to indicate that Schmidle teaches the use of cure altering agent in the top coat, he his incorrect. The cited passage describes the Schmidle base layer.

Further, the present specification defines "cure altering agents" to be "photosensitizers, promoters and inhibitors." Cure altering agents are not photoinitiators. See page 7, lines 23 to 25. Photoinitiators create radicals that initiate polymerization. Cure altering agents either promote or inhibit curing. See page 8, lines 3 to 9, of the present specification. Therefore, claims 13 and 56, which include a cure altering agent in the top coat, are allowable over Schmidle. Again it is improper to combine Schmidle and Sherman.

Claim 8 requires the top coat to comprise two thermal initiators. In the carryover sentence on pages 2 and 3 of the Office Action, the Examiner takes the position that "Schmidle discloses that the wear layer comprises more than one initiator (first and second thermal initiators)," citing column 6, lines 3 to 7. Applicants respectfully

disagree. The cited section is discussing the composition of the base layer and not the top coat. The description of the base layer begins at column 4, line 17, of Schmidle and ends at column 6, line 37. The description of the wear layer begins at column 10, line 6. There is no teaching or suggestion in Schmidle of a wear layer comprising two thermal initiators. Therefore, claim 8 is allowable over Schmidle. Again it is improper to combine Schmidle and Sherman.

Claim 12 requires a thermal curing agent. Near the middle of page 3 of the Office Action dated June 19, 2003 in the parent application, the Examiner appears to equate heat stabilizers and thermal curing agents and gloss controlling agents. He states that "Schmidle discloses that the wear and pattern layer compris[es] the UV-curable composition also comprises various heat stabilizers (thermal curing agent and gloss controlling agent)" referring to column 4, line 64, to column 6, line 16, of Schmidle. Again, this section of Schmidle refers to the backing layer and not the top coat. If the Examiner maintains his position, he is respectfully requested to support it by pointing to where in the reference such teaching is disclosed or presenting a convincing line of reasoning in light of the teaching of the reference, in accordance with MPEP section 706.02(j).

Claim 41 requires the film, which the patterned layer and thermoset top coat overlie, to be transparent or translucent. Near the top of page 5 of the Office Action, the Examiner states that "Schmidle teaches that several types of backing sheets are equally suitable and are utilizable in special situations, such as transparent backing sheets" referring to column 4, lines 17 to 43. The Examiner is respectfully requested to point out where in Schmidle there is a teaching or suggestion that the "special situations" include

transparent backing sheets, in accordance with MPEP section 706.02(j). Otherwise, claim 41 should be allowed.

Claims 21, 59 and 61 require a photoinitiator in both the first and second regions of the top coat. This is contrary to the teachings of Schmidle. Therefore, claims 21, 59 and 61 are allowable over Schmidle. Again it is improper to combine Schmidle and Sherman.

Claim 22 requires a gloss controlling agent (photoinitiator, thermal initiator and/or cure altering agent) in both the first and second regions. Again, this is contrary to the teachings of Schmidle. Therefore, claim 22 is allowable over Schmidle. Again it is improper to combine Schmidle and Sherman.

Claim 55 requires the gloss controlling agent to be either a thermal initiator or a cure altering agent. Since this is not taught in Schmidle, claim 55 is allowable over Schmidle. Again it is improper to combine Schmidle and Sherman.

Applicants respectfully request that a timely Notice of Allowance be issued in the application.

Respectfully submitted,

3/24/04
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3/24/04
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